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SP Hawk Inc v Twenty First Century Oleochemicals Sdn Bhd & Ors

HIGH COURT (JOHOR BAHRU) — CIVIL SUIT NO 22–180 OF 1998
KANG HWEE GEE J
15 NOVEMBER 2010

Evidence — Expert evidence — Whether plaintiff's expert's view was conjecture introduced to improve plaintiff's case

Tort — Negligence — Duty of care — Claim against entity responsible for loading of cargo onto vessel and surveyor appointed to supervise loading — Tank of plaintiff's vessel ruptured during loading operations — Whether second defendant owed plaintiff duty of care during loading operations — Whether defendants had breached their duty of care to plaintiff — Whether defendants responsible for not keeping hatch opened during loading operations

On 31 July 1993 the Stolt Hawk ('the vessel'), a vessel owned by SP Hawk Inc ('the plaintiff') berthed at the Pasir Gudang port to load 13 parcels of vegetable oil products ('the cargo') into the vessel's tank 8CS ('the tank'), which was assigned by the ship's master for the shipment. Nitrogen had to be applied into the tank by a process called 'blanketing' ('nitrogen blanketing') to preserve the cargo during its sea voyage. During the nitrogen blanketing the vessel's tank ruptured. The plaintiff claimed against the defendants for the loss and damage suffered during the loading of the cargo. The plaintiff had appointed the first defendant as the voyage charterer of the vessel. The second defendant, the owner of the loading facility at Pasir Gudang, was at all material times the entity responsible for the loading of the cargo onto the vessel, while the third defendant, a surveyor, was appointed to supervise the loading of the cargo onto the vessel. Before the trial, the plaintiff discontinued its claim against the first defendant. The plaintiff's claim against the second and third defendants was in negligence. The plaintiff claimed that the second defendant had breached its duty of care by applying excessive pressure when filling nitrogen into the tank, which in turn had caused the tank to rupture. As against the third defendant the plaintiff claimed a failure of duty of care to supervise the loading of the cargo into the vessel's tank. The plaintiff alleged that the third defendant had instructed the plaintiff's ship's officer to close the ullage hatch ('the hatch') during nitrogen blanketing and that this had caused the vessel's tank to rupture. The second defendant commenced third party proceedings against the third defendant claiming indemnity from the latter should it be found liable to the plaintiff. The plaintiff's case rested principally on the evidence of its expert

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who gave evidence that the likely cause of the rupture was the over pressurisation during nitrogen blanketing. The plaintiff's expert's finding was disputed by the second defendant's expert who attributed the cause of the rupture of the tank to the failure to keep the hatch open just before blanketing began.

Held, dismissing the plaintiff's claim against the second and third defendants with costs and dismissing the second defendant's third party proceedings against the third defendant with costs:

(1) The second defendant had followed the instructions prescribed in the standard operating procedure ('SOP') for product dispatch to vessel using nitrogen facilities when loading the cargo into the vessel's tank. Although the SOP did not provide any instructions as to whether the hatch should be closed or kept open during nitrogen blanketing, it was the accepted procedure to leave the hatch open during nitrogen blanketing. This was because the tank itself did not provide any opening or safety valve to allow the release of any excess nitrogen during nitrogen blanketing. Further this accepted or usual practice to keep the hatch open was consistent with the statements made by the chief officer of the vessel and the master of the vessel (see paras 39–42).

(2) The plaintiff's expert's view that even if the hatch was kept open the tank would have ruptured because of the sudden forceful surge of liquid into the tank at the start of the nitrogen blanketing, was unacceptable. This view was not conclusive as to the amount of pressure applied by the second defendant during blanketing and did not provide any data as to how much force the tank could tolerate with the hatch closed before it ruptured. It would also be wrong to rely on the shuddering felt and the bang heard at about the time nitrogen blanketing commenced to conclude that excess pressure was being applied as these effects were more likely the consequence of the rupture rather than its cause. As such, the plaintiff's expert's view was at best a conjecture introduced to improve the plaintiff's case (see paras 45–46 & 49).

(3) Although the second defendant, as the entity which undertook the loading operations, owed a duty of care to the plaintiff during loading operations, it did not breach its duty of care. According to the facts the plaintiff's officer had at the request of the third defendant surveyor closed the hatch during the nitrogen blanketing, but there was no evidence that the hatch was reopened after the surveyor had taken the reading. As the task of operating and managing the vessel's equipment at all stages had lain with the plaintiff, it was the plaintiff's duty to ensure that the hatch was reopened. Thus, the plaintiff was the author of its own misfortune (see paras 51 & 54–55).

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[Bahasa Malaysia summary

Pada 31 Julai 1993 Stolt Hawk ('kapal'), kapal yang dimiliki oleh SP Hawk Inc ('plaintif') berlabuh di pelabuhan Pasir Gudang untuk memuatkan 13 bungkusan barang minyak sayuran ('kargo') ke kapal tank 8CS ('tangki'), yang ditugasi oleh nakhoda kapal untuk penghantaran. Nitrogen terpaksa diisikan ke dalam tangki melalui proses yang dikenali sebagai liputan ('liputan nitrogen') untuk mengawet kargo semasa perlayaran lautnya. Semasa liputan nitrogen tangki kapal pecah. Plaintif menuntut daripada defendan-defendan untuk kerugian dan ganti rugi yang dialami semasa memuatkan kargo tersebut. Plaintif melantik defendan pertama sebagai pencarter pelayaran kapal tersebut. Defendan kedua, pemilik kemudahan muatan di Pasir Gudang, pada kesemua masa entiti yang bertanggungjawab untuk memuatkan kargo ke atas kapal, sementara defendan ketiga, pemeriksa, dilantik untuk mengawasi muatan kargo tersebut ke atas kapal. Sebelum perbicaraan, plaintif menghentikan tuntutannya terhadap defendan pertama. Tuntutan plaintif terhadap defendan-defendan kedua dan ketiga adalah mengenai kecuaian. Plaintif mendakwa bahawa defendan kedua telah memungkiri kewajipan berhati-hatinya dengan mengenakan tekanan lebih apabila mengisi nitrogen ke dalam tangki, yang mana kemudiannya telah menyebabkan tangki tersebut pecah. Terhadap defendan ketiga, plaintif menuntut kegagalan kewajipan berhati-hati untuk mengawasi pemuatan kargo ke dalam tangki kapal. Plaintif mendakwa bahawa defendan ketiga telah mengarah pegawai kapal plaintif untuk menutup 'ullage hatch' ('hac') semasa litupan nitrogen dan ini menyebabkan tangki kapal pecah. Defendan kedua memulakan prosiding pihak ketiga terhadap defendan ketiga menuntut indemniti daripada defendan ketiga sekiranya ia didapati bertanggungjawab terhadap plaintif. Kes plaintif berdasarkan terutamanya atas keterangan pakarnya yang memberi keterangan bahawa punca kemungkinan pecah adalah penekanan lebih semasa liputan nitrogen. Penemuan pakar plaintif adalah dipertikaikan oleh pakar defendan kedua yang menganggap bahawa punca pecah tangki tersebut adalah kegagalan untuk mengekalkan hac dibuka sebelum liputan dimulakan.

Diputuskan, menolak tuntutan plaintif terhadap defendan-defendan kedua dan ketiga dengan kos dan menolak prosiding pihak ketiga defendan kedua terhadap defendan ketiga dengan kos:

(1) Defendan kedua telah mengikut arahan yang dinyatakan di dalam Standard Operating Procedure ('SOP') untuk penghantaran barang ke kapal menggunakan kemudahan nitrogen apabila memuatkan kargo ke dalam tangki kapal. Walaupun SOP tidak memperuntukkan apa-apa arahan terhadap sama ada hac patut ditutup atau dibuka semasa litupan nitrogen, ia adalah prosedur yang diterima untuk membiarkan hac terbuka semasa liputan nitrogen. Ini adalah kerana tangkinya sendiri tidak memperuntukkan apa-apa pembukaan atau injap keselamatan untuk membenarkan pelepasan apa-apa lebihan nitrogen semasa litupan

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nitrogen. Selanjutnya amalan yang diterima atau biasa ini untuk membiarkan hac terbuka adalah konsisten dengan penyataan yang dibuat oleh ketua pegawai kapal dan nakhoda kapal tersebut (lihat perenggan 39–42).

(2) Pandangan pakar plaintif bahawa walaupun hac dibiarkan terbuka tangki itu akan pecah kerana pertambahan kuat cecair secara mendadak ke dalam tangki pada permulaan litupan nitrogen, tidak diterima. Pandangan ini tidak konklusif terhadap jumlah tekanan yang digunakan oleh defendan kedua semasa litupan dan tidak memperuntukkan apa-apa data terhadap banyak mana tekanan tangki tersebut boleh mentoleransi dengan hac yang tertutup sebelum ia pecah. Ia juga adalah salah untuk bergantung ke atas 'shuddering felt' dan bunyi 'bang' yang didengar pada masa litupan nitrogen bermula untuk membuat kesimpulan bahawa tekanan lebihan digunakan kerana kesan ini mungkin menyebabkan pecah dan bukan sebabnya. Oleh itu, pandangan pakar plaintif paling baik adalah tekaan dikemukakan untuk memperbaiki kes plaintif (lihat perenggan 45–46 & 49).

(3) Walaupun defendan kedua, sebagai entiti yang menjalankan operasi pemuatan, mempunyai tanggungjawab kewajipan berhati-hati kepada plaintif semasa operasi pemuatan, ia tidak memungkiri kewajipan berhati-hatinya. Mengikut fakta pegawai plaintif telah atas permintaan pemeriksa defendan ketiga menutup hac semasa litupan nitrogen, tetapi tidak terdapat keterangan bahawa hac tersebut dibuka semula selepas pemeriksa mengambil pembacaan meternya. Memandangkan tugas operasi dan pengurusan barang-barang kapal pada kesemua peringkat terletak pada plaintif, ia adalah tugas plaintif untuk memastikan bahawa hac dibuka semula. Oleh itu, plaintif sendiri yang bersalah atas kerugiannya (lihat perenggan 51, 54–55).]

Notes

For cases on duty of care, see 12 *Mallal's Digest* (4th Ed, 2005 Reissue) paras 963–1011.

For cases on expert evidence in general, see 7(1) *Mallal's Digest* (4th Ed, 2011 Reissue) paras 1656–1789.

Cases referred to

Tatem Steam Navigation Company Ltd v Great Western Railway Company and South Wales Siemens Steel Association (Third Parties) (1942) 73 Lloyd's L Rep 89 (folld)

K Sivakumar (Skrine) for the plaintiff.
K Prakash (Navrita Kaur with him) (Shook Lin & Bok) for the second defendant.
Abdullah bin Abdul Rahman (Cheang & Ariff) for the third defendant/third party.

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Kang Hwee Gee J:

INTRODUCTION

[1] The plaintiff, the owner of the vessel the 'Stolt Hawk', claims against the defendants for loss and damage suffered by its vessel the Stolt Hawk during the loading of stearic acid at Pasir Gudang port on 31 July 1993.

[2] The first defendant ('the shipper') was the voyage charterer of the Stolt Hawk under a contract in writing dated 18 June 1993.

[3] The second defendant was at all material times the owner of the loading facility at Pasir Gudang and the entity appointed by the shipper to be responsible for the loading of the shipper's stearic acid cargo on to the Stolt Hawk.

[4] The third defendant was a surveyor appointed by the shipper to supervise the loading of the said cargo on board the vessel.

[5] The Stolt Hawk berthed at Pasir Gudang on 31 July 1993 to load 13 parcels of vegetable oil products (technically known as 'stearic acid') through five shore lines into tank 8CS assigned by the ship's master for the shipment.

[6] The tank 8CS was ruptured in the last stage of the loading process when nitrogen had to be introduced into the ullage space of the tank by a process called 'blanketing'.

The process of applying nitrogen

[7] The purpose of applying nitrogen into the tank was to preserve the stearic acid during its sea voyage.

[8] First, nitrogen would have to be applied to the empty tank before loading by a process called 'purging' to reduce the oxygen in the tank; next nitrogen would have to be introduced during loading by a process called 'sparging' as the stearic acid was being loaded; and finally after loading when nitrogen would have to be applied to the unfilled space (the space between the surface of the stearic acid and the ceiling of the tank) by a process called 'blanketing'.

[9] It is common ground that the integrity of tank 8CS on the Stolt Hawk was sound before loading; that nitrogen blanketing was to be carried out by

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second defendant to be applied to the cargo in tank 8CS upon completion of loading; and that damage was caused to tank 8CS during the process of nitrogen blanketing.

[10] The nitrogen was supplied from the second defendant's storage tank located some 1.5km onshore and delivered through shore lines into the ship's tank via the ship's manifold and loading lines. The pressure at the storage tank was pre-set at six bar by the gas supplier Malayan Oxygen.

[11] During blanketing nitrogen was introduced to the ullage space not by direct application through the hatch on the top of the tank but by letting the gas bubble through the cargo pump stack at the bottom of the tank to reach the ullage space.

[12] Two loading personnel were deployed by the second defendant; one at the storage tank inshore and the other at the shore line to control the flow of the gas to the tank 8CS on board. The personnel stationed at the storage tank would receive instruction by radio from the personnel stationed at the shore line as to when to open and to close the supply valve to release the gas as and when required during the entire process of loading including during blanketing.

THE INCIDENT

[13] It was established from the evidence of Mr Rainer Michael Sokolowski, the ship's master ('PW1') and Mr Richelieu Joyo Mondano, the third officer ('PW2') and the ship's logbook that loading operations of the cargo into tank 8CS commenced at 5.30am on 31 July 1993 and completed at 9.40am on the same day.

[14] Upon completion of the sparging, the third defendant's representative together with the chief officer of the vessel took the ullage measurements of tank 8CS in order to determine the quantity of cargo in the said tank, before nitrogen blanketing of tank 8CS commenced at 10.55am.

[15] When blanketing began soon after, a shudder followed by a bang were felt and heard on board the Stolt Hawk.

[16] Ten to fifteen minutes later, the third defendant's representative reported to PW2 that nitrogen was no longer flowing into tank 8CS. PW2 then checked all the valves controlling the flow of nitrogen on board and found them to be open.

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[17] On investigation, it was later found that the stearic acid had leaked out of tank 8CS and could be found in the duct keel of the vessel. Nitrogen blanketing had to be stopped. By 11.45am the duct keel was sealed off. It was observed that stearic acid had also escaped into the adjoining previously empty tank 9CS.

[18] An inspection was later carried out by PW1 at just past midnight on 1 August 1993. It was found that a rupture had occurred in the bulkheads of tank 8CS.

THE CLAIM

[19] The claim against the first defendant shipper was discontinued before the trial.

[20] The plaintiff's claim against the second defendant is in negligence for having breached its duty of care:

(a) in applying excessive pressure in filling nitrogen into the tank 8CS; and

(b) in using the wrong procedure akin to tank 'purging' (which required a greater pressure) instead of the accepted procedure in blanketing which required the application of a lesser pressure.

[21] As against the third defendant ('the surveyor') on a similar cause of action in negligence, for failing in its duty of care to supervise the loading of the cargo into tank 8CS and for having instructed the plaintiff's ship's officer to close the ullage hatch during blanketing when it should have been kept open. The closure of the ullage hatch, it is alleged, had prevented the tank from being adequately ventilated thereby allowing the pressure to build up causing its rupture.

[22] A third party proceedings was also brought against the third defendant by the second defendant for the right to be indemnified should it be found liable to the plaintiff.

THE EVIDENCE

[23] The plaintiff's case rests principally on the evidence of its expert ('PW3') Mr Richard Thomas Gregory, a holder of a UK Certificate of Competency as extra master which he acquired in 1981. He had been in the 'marine industry' since 1967 and presently a consultant with Noble Denton Europe Ltd, a marine and engineering consultancy company.

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[24] He prepared three reports for the purpose of the trial and gave evidence to show that the likely cause of the rupture was the over pressurisation during nitrogen blanketing.

[25] The main report was based on his survey of the vessel on 8 August 1993 several days after the incident but after repairs on the vessel were carried out in Singapore wherein he attributed the failure of the tank 8CS on 31 July 1993 to 'the oversupply of nitrogen from the shore terminal'.

[26] Mr Richard Gregory's explanation appears in his first report dated 8 September 1993 at pp 9–12 of bundle A which he prepared after his inspection of the damaged tank 8CS on the Stolt Hawk on 8 August 1993. The relevant portion of the report read:

> 3.4 *APPLYING THE NITROGEN BLANKET*
>
> 3.4.1 Stearic Acid is carried under a nitrogen blanket for quality control reasons and it is normal practice to blanket the cargo after loading. The final ullage after loading in tank 8CS was 1.4 metres leaving an ullage space of about 0.4 metres below the level of the main deck and an ullage volume of about 18 m^3. The ship was approximately even keel.
>
> 3.4.2 With such a small ullage space remaining, providing the nitrogen blanket requires neither a large volume of nitrogen nor nitrogen at high pressure. All that is required is to release nitrogen into the tank either down through the tank lid or bubbled up through the cargo pump stack. The procedure is simple and straightforward
>
> 3.4.3 We understand that nitrogen was supplied from a storage tank on shore through the shore lines and into the ship's tank via the ship's manifold and loading lines and that the working pressure applied to the shore/ship's lines was 6 bar (90 psi). According to the Third Officer, he opened the manifold and the pump discharge valves and told the pumpman to open the P/V valve. Nitrogen was then applied from the shore.
>
> 3.4.4 Blanketing started at 1055 hours. According to the Third Officer a bang was heard: according to the deck log book 'little shuddering felt throughout ship'. At 11.45 hours, the pumpman discovered cargo in the duct keel.
>
> Some time before 1145 hours the two SGS surveyors, who were on board to monitor the blanketing operation, noticed that the nitrogen pressure in the ullage space was low — this was confirmed by the Chief Officer just before the pumpman's report of cargo in the duct keel and at this time the Chief Officer found the ullage port closed. A check of the ullage in tank 8CS at 1155 hours found that it had dropped from 1.4 metres after loading to 6.2 metres.
>
> 4. *CAUSE OF THE DAMAGE*
>
> 4.1 After tank 8CS was emptied the tank was inspected by the ship's crew and a surveyor from Gellatly Hankey, Pasir Gudang acting for Owners/UK P&I. The damage reported is consistent with the tank being over-pressurised.

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4.2 Whilst the design scantlings for the tank are such that cargoes with densities up to 1.5 tonnes/m3 can be loaded, the tank is not designed to resist high pressures. This is evidenced by the setting of the P/V valve (0.25 psi).

4.3 The tank was fully loaded to within about 0.4 metres of the main deck. The evidence is that the manifold and pump stack valves were open, with nitrogen applied at full bore at 6 bar (90 psi) pressure. Applying nitrogen in this manner is, in our opinion, purging the tank atmosphere rather than the gentle application of a nitrogen blanket. It is probable that there was a surge of liquid in tank 8CS as the ship's line and pump stack were blown clear. There is no evidence of any product being spilled on deck, therefore in our opinion it is probable that the ullage port was closed; if it had been open and if product had been spilled this may have been sufficient to relieve the over-pressure which ruptured the tank.

4.4 There is some doubt as to whether the P/V valve was open or closed. Assuming that it was open, then it is evident that the size of the 80 mm vent line was insufficient to relieve the high pressure due to the nitrogen in the 6 inch (150 mm) ship's lines. With high pressure in the lines being released via the pump stack into the bottom of the tank, the effect of the inevitable surge of liquid in the tank would be to block the vent line which was fitted to the side of the tank lid 300 mm above the main deck. The only relief mode left for the tank structure was for the bulkhead(s) to rupture.

[27] In his second report dated 14 March 2005 he introduced a new finding attributing the rupture to the 'sudden surge of pressure into tank 8CS at the start of the blanketing procedure', after having had the benefit of the report prepared by the second defendant's expert Captain Nigel J Snowden ('DW1').

[28] In his third report dated 5 April 2005 he merged his finding in the second with the first by concluding that 'The damage to the Tank 8CS of Stolt Hawk on 31st July 1993 was as a result of oversupply of nitrogen from the shore terminal'.

THE SECOND DEFENDANT EXPERT'S FINDING

[29] The plaintiff expert's finding was disputed by the second defendant.

[30] Its own expert (DW1) Captain Nigel Snowden, a holder of a Certificate of Competency as Master of Foreign Going Vessel issued by the Under Secretary of the Board of Trade, United Kingdom on 28 September 1978, for vessels carrying dangerous cargo of crude liquid petroleum, petroleum products or liquid chemicals.

[31] He prepared a report and gave evidence. He attributed the cause of the rupture of the tank 8CS to the failure to keep the ullage hatch open just before blanketing began.

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[32] Captain Nigel Snowden's evidence appears at paras 9 and 10 of his witness statement (marked as 'DW1'):

(a) the cause of the rupture was a failure to allow the tank to vent during the blanketing procedure. There is nothing to suggest that the shore staff had applied any different technique during the blanketing procedure on this vessel than that applied to other vessels before or subsequent to this incident. The only apparent difference between the blanketing procedure and all the other procedures in respect of the 8CS tank that day (including the pigging and the actual loading of the cargo) was that the ullage port was closed at the time of the incident. The closure of the ullage port caused a rise of pressure in the tank which led to the rupture.

(b) The tank would not have ruptured as the atmosphere would have been able to vent safely due to the size of the hatch opening. The one crucial document which supports my opinion is the 'Statement Regarding Over pressurizing of Tank NR 8CS' prepared by the Chief Officer of the vessel (p 133 Bundle DB2);

(c) A plain reading of the second and third paragraphs of the statement shows that the Chief Officer was particularly concerned that the ullage port was closed at the time of the blanketing procedure which, in my opinion, clearly demonstrates that the ullage port on the Stolt Hawk ought to have been open at the material time.

(d) The fact that the Chief Officer also took remedial action by immediately opening the ullage port BEFORE any problem had been reported is also extremely pertinent in that it indicates that he was aware that the closing/securing of the ullage port would potentially lead to problems.

(e) This leads to a conclusion that the Chief Officer was aware that there was a problem associated with the only remaining venting from this tank (ie the p/v valve) OR that he was aware that the p/v valve alone would not, for some reason, provide sufficient relief during the blanketing of the tank.

[33] The fact that the ullage hatch was not open during blanketing is indisputable as PW2 the third officer of the plaintiff had confirmed in his evidence that the ullage hatch was closed just before blanketing. The first officer on noticing that the ullage hatch had been closed had instructed that it be opened. But apparently his instruction went unheeded as the ullage hatch had remained closed during blanketing. In the previous process of purging, sparging and pigging of the tank before blanketing, the ullage hatch had always been open.

[34] Mr Richard Gregory's response to the opinion of Captain Nigel Snowden on this point was that even if the ullage hatch was open at the commencement of blanketing the rupture to the tank would still have occurred. He explained this at para 21 of his third witness statement:

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> In other words, whilst it is true that some amount of the excess pressure could have been relieved if the ullage hatch was open by the product in tank 8CS spilling on deck, the sudden surge of liquid in tank 8CS on the commencement of the introduction of nitrogen would have caused the sides of tank 8CS to rupture. In this respect, my conclusion that the rupture was caused by a sudden surge as early as in my first report of 8 September 1993 was based on the recordings in the logbook of the shuddering felt by the Master and the bang felt by PW2 upon the commencement of nitrogen blanketing. This evidence is also substantiated by the evidence of the difficulty experienced by the surveyors in sampling the atmosphere in tank 8CS when nitrogen blanketing commenced.

FINDING

[35] The plaintiff's claim is premised on the probability that the rupture was caused by nitrogen being introduced into the tank on board at excessive pressure from the second defendant's storage tank situated some 1.5km away on shore.

[36] As with all structural failures, its occurrence was sudden and unseen. The plaintiff had to rely on the evidence of its expert, Mr Richard Gregory whose postulation of the likely cause of the rupture was premised on the assumption that the ullage hatch was closed when blanketing commenced.

[37] Mr Richard Gregory did not consider in detail the effect of the hatch being open during blanketing but did say in his first report that 'if (the ullage port) was open and if (the) product had been spilled, this may have been sufficient to relieve the over pressure which ruptured the tank'.

[38] His finding on the cause of the rupture of the tank 8CS was therefore no different from the finding of the second defendant's expert Captain Nigel Snowden that had the ullage hatch (or port) been left open no over pressurisation could have occurred as the open hatch would have facilitated the escape of any excess pressure.

[39] The second defendant in loading the stearic acid into tank 8CS had followed the instructions prescribed in their own standard operating procedure (SOP) for product dispatch to vessel using nitrogen facilities, which they had used in previous operations. With respect to nitrogen blanketing SOP item 22 read:

> After pigging, Loading Master shall notify operator to continue releasing the Nitrogen until the surveyor informs that the required Oxygen percentage in the Vessel tank has been achieved. (Applicable if blanketing of Vessel's tank is required).

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[40] The SOP did not provide any instruction as to whether the ullage hatch should be closed or be kept open during nitrogen blanketing.

[41] Nevertheless, it is my finding that the *accepted practice* during nitrogen blanketing was to leave the ullage hatch *open* on the following ground:

[42] The tank 8CS itself did not provide any opening or safety valve to allow the release of any excess nitrogen during nitrogen blanketing. The only outlet for the gas to escape is through the vent drain valve of the vent pipe. No evidence was forthcoming with respect to how much pressure the vent drain valve was able to take to release any excess pressure. But by its tiny size (80 mm) it would not be wrong to estimate that its capability to release any excess pressure was limited. An open ullage hatch under the circumstances would ensure that any excess pressure would be able to escape and indeed it is not in dispute that it had been open during purging and sparging.

[43] That the usual practice was to keep the ullage hatch open during blanketing is consistent with the statement made by the chief officer of the vessel, Mr G Knutsen on the day of occurrence. The statement at pp 6 and 7 of bundle C was previously disputed by the second defendant but is now admitted. In his statement Mr Knutsen said that on noticing that the ullage hatch was closed when blanketing commenced, he had ordered that it be opened at once followed by his own immediate action to fully open the drain cork on the vent mask to release the pressure in the tank.

[44] It is also consistent with what the master of the vessel, Mr Rainer Michael Sokolowski (PW1) opined in cross-examination that he would open the ullage hatch if it was found to be closed during blanketing.

[45] The view expressed by Mr Richard Gregory in his third witness statement that even if the hatch was open, the tank would have ruptured by the sudden forceful surge of the liquid in the tank at the start of blanketing is unacceptable.

[46] Firstly, there is no conclusive evidence as to how much pressure was applied by the second defendant during blanketing. It would be wrong to assume that it was released at full bore of six bar by the second defendant's operator at the supply tank only because the supplier of the nitrogen Malayan Oxygen Ltd had set the maximum pressure of six bar at the supply tank. According to the second defendant's loading master Encik Zulkefle bin Musa ('DW2'), he had closed the jetty valves after pigging. The valves would have to be reopened in order to begin blanketing. As counsel for the second defendant rightly submits, it was improbable for six bar of nitrogen to be suddenly

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released down the line to tank 8CS as the valve at the jetty was a gate-valve which can only be opened or closed gradually by turning the wheel requiring some 30 turns to be fully opened.

[47] Secondly, assuming that nitrogen was in fact suddenly introduced to the tank 8CS at full bore of six bar, Mr Richard Gregory did not provide any data to indicate how much of such force can the tank tolerate with the ullage hatch closed before it ruptures.

[48] Thirdly, it would be wrong to rely on the shuddering felt and the 'bang' heard on board the vessel at or about the time blanketing commenced (as recorded in the logbook of the vessel) to conclude that excess pressure was being applied. The phenomenon felt on the vessel was more likely the consequence of the rupture rather than its cause.

[49] The postulation was at best a conjecture introduced at a late stage of the trial to improve the plaintiff's case.

DECISION

[50] I accept the principle in *Tatem Steam Navigation Company Ltd v Great Western Railway Company and South Wales Siemens Steel Association (Third Parties)* (1942) 73 Lloyd's L Rep 89, that the entity which undertakes the loading operation owes a duty of care to the owner of the vessel during loading operation as submitted by counsel for the plaintiff.

[51] But in the instant case, it is clear that the second defendant as the loader of the cargo of stearic acid into the plaintiff's vessel did not breach its duty of care.

[52] The plaintiff's own third officer (PW2) had admitted that the ullage hatch had been open during the preceding process of purging and sparging. He had closed it during blanketing at the request of the surveyor who had wanted to take the reading of nitrogen flow through the drain cork at the vent mask, but there is no evidence that the ullage hatch was reopened after the surveyor had taken the reading.

[53] Had it remained open as it should be after sparging, it is improbable that there could be any built up of pressure in tank 8CS to cause the rupture as any excess pressure would have been compromised by the open ullage hatch.

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[54] It is not disputed by all the parties that the task of operating and managing the vessel's equipments at all stages of loading including the last stage of nitrogen blanketing lies with the plaintiff (notes of evidence p 26).

[55] It was the plaintiff's responsibility to keep to the usual practice of leaving the ullage hatch open during blanketing; and in the peculiarity of the instance case, after the hatch was closed by its second officer to enable the surveyor to take the nitrogen reading, it was the plaintiff's duty to ensure that the hatch be reopened. The plaintiff, I am constrained to find was the author of his own misfortune. Its case against the second defendant and the third defendant should therefore be dismissed with costs.

[56] On the same grounds, the action brought by the second defendant against the third defendant/third party should be dismissed with costs.

Plaintiff's claim against second and third defendants dismissed with costs and the second defendant's third party proceedings against third defendant dismissed with costs

Reported by Kohila Nesan